



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,008	08/25/2003	Qi Jin	SVL920030041US1	3350

47069 7590 04/17/2006

KONRAD RAYNES & VICTOR, LLP
ATTN: IBM54
315 SOUTH BEVERLY DRIVE, SUITE 210
BEVERLY HILLS, CA 90212

EXAMINER

RADTKE, MARK A

ART UNIT PAPER NUMBER

2165

DATE MAILED: 04/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/648,008	Applicant(s) JIN ET AL.	
	Examiner Mark A. Radtke	Art Unit 2165	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/25/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because it is longer than 1 paragraph. Correction is required. See MPEP § 608.01(b).

Claim Objections

2. Claims 17-18 are objected to because of the following informalities:
 - a. As to claim 18, a claim may not depend from itself. For the purposes of examination, line 1 of claim 18 will be read "The article of manufacture of claim 17, wherein the operations for".
 - b. As to claim 17, delete line 3.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1, 5-8, 11, 15-18, 21 and 25-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. As to claims 1, 7, 11, 17, 21 and 27, the use of the word "structure" is vague. It is unclear to the Examiner if the structures are subsets of the rows and columns in a table or if they are tables themselves. For the purposes of examination, it will be assumed that they are subsets of a table distinguished from other structures by adding a column of Boolean flags or a similar identifying mechanism.

6. As to claims 1, 11 and 21, the last step of "processing the index entries" is vague. All data on a computer is "processed".

7. As to claims 7, 17 and 27, the last step of "reapplying" is vague. All data in a database is "applied" to a table. It is unclear how "reapplying" can be done "automatically"; in the broadest sense, all of a computer's actions are a direct cause of instructions on the computer, and thus "automatic". For the purposes of examination, "automatically reapplying" will be read as "storing". Furthermore, the first step of

"loading one or more input rows [...] wherein [...] discarded input rows are stored in a third structure" is vague because there is no prior step that determines which input rows are to be discarded. Furthermore, there is insufficient antecedent basis for the phrase "discarded input rows", because no rows have been marked as discarded.

8. As to claims 8, 18 and 28, the second step of "applying conditions" is vague. There is no well-known method of "applying conditions to [...] input rows" in the art. For the purposes of examination, Examiner will read "applying conditions" as "conditionally deleting".

9. Claims 5-6, 15-16 and 25-26 recite the limitation "the output table" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 101

10. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

11. Claims 11 and 17 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Both sets of claims are directed towards an "article of manufacture". Page 22, paragraph [0073] of the specification teaches that "the article of manufacture in which the code is implemented may comprise a transmission media, such as a network transmission line, wireless transmission media,

signals propagating through space, radio waves, infrared signals, etc.” Signals are non-statutory subject matter because they are intangible.

12. Claims 1, 7, 11, 17, 21 and 27 are rejected under 35 U.S.C. 101 because the claimed invention does not produce a tangible result, and thus is non-statutory. As to claims 1, 11 and 21, the final step of “processing the index entries” is vague; whenever any kind of data is loaded into memory on a computer, it is “processed”. Data is not stored, displayed or used in any particular way.

13. As to claims 7, 17 and 27, the step of “automatically reapplying [...] to the output table” produces no tangible result. Data can be applied to a table in any number of ways; it can be compared with other data, stored, displayed, and so on. Furthermore, the third step of “determining” is vague because it does not produce a concrete (deterministic) result.

Claim Rejections - 35 USC § 102

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

15. Claims 1-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Thusoo et al. (U.S. Patent 7,016,903).

As to claim 1, Thusoo et al. teaches a method for processing input data (see Abstract) comprising:

receiving multiple input rows to be loaded into a first structure (see Abstract and figure 2, Source Table 100);

processing each input row of the multiple input rows to classify each input row as one of an insert row and an update row (see figure 4, step 170), wherein input duplicates are stored in the first structure (see figure 4, step 175) and index entries for the input duplicates are stored in a second structure (See figure 4, step 180 and see also column 8, lines 12-20. The first structure is the set of all rows with non-NULL keys and the second structure is the set of all rows with NULL keys.); and

after the multiple input rows have been processed,

automatically re-applying the input duplicates to the first structure (see figure 5, step 255 and column 8, lines 39-41); and

processing the index entries stored in the second structure (see figure 5, step 255 and column 8, lines 37-39).

Art Unit: 2165

As to claims 2, 12 and 22, Thusoo et al. teaches further comprising:
identifying duplicates in the index entries in the second structure (see column 8, lines 36-37); and
storing the identified duplicates in a third structure (see column 8, lines 28-31 and see also column 5, table 3).

As to claims 3, 13 and 23, Thusoo et al. teaches wherein the processing of the input data further comprises order insensitive processing of input duplicates (see column 5, lines 38-41 wherein order sensitivity is optionally taught).

As to claims 4, 14 and 24, Thusoo et al. teaches wherein the processing of the input data further comprises order sensitive processing of input duplicates (see column 5, lines 38-41 wherein order sensitivity is optionally taught).

As to claims 5, 9, 15, 19, 25 and 29, Thusoo et al. teaches wherein automatically reapplying input duplicates comprises:

removing input duplicates from the output table (See column 8, lines 12-16 where “sale amount value” is conditionally discarded. In the case of an update, “sale amount value” is retained and other data is discarded).

As to claims 6, 16 and 26, Thusoo et al. teaches further comprising:
when an input duplicate is characterized as an update row, updating a
corresponding row in the output table (see column 8, lines 39-41).

As to claim 7, Thusoo et al. teaches a method for processing input data (see
Abstract), comprising:

loading one or more input rows into an output table, wherein index entries for
input rows are stored in a first structure and discarded input rows are stored in a third
structure (see Abstract and figure 2, Source Table 100);

periodically interrupting the loading of the one or more input rows to perform an
index merge, wherein input duplicates for which corresponding index entries in the first
structure are not added to an index are stored in a second structure (See figure 4, steps
165-185. Loading is interrupted after every row in the decision made by step 185 to
check for more data.);

determining whether to add data for one or more discarded input rows in the third
structure to the second structure (see figure 4, step 180 and see also column 8, lines
12-20);

when it is determined that the data for one or more discarded input rows in the
third structure are to be added to the second structure, adding the data for the
discarded input rows to the second structure (see figure 5, step 255 and column 8, lines
37-39); and

automatically reapplying input duplicates and discarded input rows for which data is stored in the second structure to the output table (see figure 5, step 255 and column 8, lines 39-41).

As to claims 8, 18 and 28, Thusoo et al. teaches wherein determining whether to add the data for one or more discarded input rows in the third structure to the second structure further comprises:

searching for discarded input rows in the third structure with corresponding rows in the second structure and in the output table to identify potential input duplicates (see column 8, lines 36-37); and

applying conditions to the discarded input rows that are potential input duplicates (see column 8, lines 28-31 and see also column 5, table 3).

As to claims 10, 20 and 30, Thusoo et al. teaches wherein the processing of the input data further comprises at least one of order sensitive processing and order insensitive processing (see column 5, lines 38-41).

As to claim 11, Thusoo et al. teaches an article of manufacture including a program for processing input data wherein the program causes operations to be performed (see Abstract), the operations comprising:

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 1 above.

As to claim 17, Thusoo et al. teaches an article of manufacture including a program for processing input data, wherein the program causes operations to be performed (see Abstract), the operations comprising: comprising:

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 7 above.

As to claim 21, Thusoo et al. teaches a computer system having at least one program for processing input data (see Abstract) comprising:

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 1 above.

As to claim 27, Thusoo et al. teaches a computer system having at least one program for processing input data (see Abstract), comprising:

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 7 above.

Additional References

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of art with respect to database merging in general:

Patent/Pub. No.	Issued to	Cited for teaching
US 6829600 B2	Gu; Richard Y. et al.	Upsert and merge
US 6985895 B2	Witkowski; Andrew et al.	Upsert
US 5584026 A	Knudsen; Helge et al.	Database import with inserts and updates
US 7020661 B1	Cruanes; Thierry et al.	Merge
US 6944633 B1	Higa; Lawrence H. et al.	Merge
US 6421658 B1	Carey; Michael J. et al.	Merge

Conclusion

17. Any inquiry concerning this communication or earlier communications should be directed to the examiner, Mark A. Radtke. The examiner's telephone number is (571) 272-7163, and the examiner can normally be reached between 9 AM and 5 PM, Monday through Friday.


Art Unit: 2165

If attempts to contact the examiner are unsuccessful, the examiner's supervisor, Jeffrey Gaffin, can be reached at (571) 272-4146.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Customer Service at (800) 786-9199.

maxr

7 April 2006



JEFFREY GAFFIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100